Expanding Agricultural Research in the Suwannee River Basin -

A $600,000 increase in fiscal year 2002 funding to the USDA-ARS Southeast Watershed Research Laboratory in Tifton, GA will support the expansion of two efforts being conducted in partnership with the University of Georgia's Coastal Plain Experiment Station and Florida's Suwannee River Water Management District. The first effort is an expansion of the Watershed Laboratory's research and monitoring program to include the full Little River Basin (1455 km^2) in southern Georgia. This is the first phase of the expansion and will extend the utility of research that has been conducted for the past 35 years on a 342 km^2 sub-watershed in the headwaters of the basin. Subsequent phases of expansion are planned so that the completed program will cover all of the Georgia portion of the Suwannee Basin (~ 5000 km^2) and will complement similar ongoing efforts by the Suwannee River Water Management District in the Florida portion of the basin. Completion of the program's expansion will fulfill a critical need, because this is the scale at which water quality will be managed by state and federal regulatory agencies. When complete, the expanded program will provide real-time characterization of rainfall, soil moisture, hydrologic flow, and water quality in the Suwannee Basin. With our partners, we will couple this information with research on improvements of Best Management Practices and evaluate the relationships between land use, weather and climate, water quantity, water quality, and the impacts of BMP implementation on agricultural profitability. A second project, also being implemented in partnership with the UGA's Coastal Plain Experiment Station, will evaluate the impacts of irrigation water withdrawals on water quantity and quality and will develop improved technologies for water and chemical management coupled to the real-time monitoring systems. The outcomes expected from these expansions are the development of: (a) a conceptual understanding of responses in natural resource and environmental systems based on physical, chemical, and biological processes; (b) improved methodologies to direct optimal use of soil and water resources in the production of quality food and fiber while maintaining short- and long-term productivity requirements, ecosystem stability, and environmental quality; and (c) publically available models and information based systems to guide responsible management decisions for growers, action and regulatory agencies at field, farm, and small and large watershed scales.